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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2019 United States Special Operations Command **Date:** February 2018

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 2: Applied Research					R-1 Program Element (Number/Name) PE 1160401BB / SOF Technology Development							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	474.372	44.857	34.493	35.921	-	35.921	40.757	46.884	49.890	50.890	Continuing	Continuing
S100: SOF Technology Development	474.372	44.857	34.493	35.921	-	35.921	40.757	46.884	49.890	50.890	Continuing	Continuing

## A. Mission Description and Budget Item Justification

This program element enables USSOCOM to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to Department of Defense (DOD), other government agencies, and commercial organizations allows USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies for Special Operations Forces. This project provides an investment strategy for USSOCOM to link technology opportunities with capability deficiencies, capability objectives, technology thrust areas, human endurance and sensory performance, and technology development objectives.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Previous President's Budget	37.820	34.493	37.036	-	37.036
Current President's Budget	44.857	34.493	35.921	-	35.921
Total Adjustments	7.037	0.000	-1.115	-	-1.115
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	8.400	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.363	-			
• Other adjustments	-	-	-1.115	-	-1.115

## Congressional Add Details (\$ in Millions, and Includes General Reductions)

**Project:** S100: SOF Technology Development

Congressional Add: Program Increase

Congressional Add: Thermal Signature Management Technology Program

Congressional Add Subtotals for Project: S100

Congressional Add Totals for all Projects

	FY 2017	FY 2018
	3.400	-
	5.000	-
	8.400	-
	8.400	-

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<p><b><u>Change Summary Explanation</u></b></p> <p>Funding:</p> <p>FY 2017: Net increase of \$7.037 million is due to a transfer of -\$1.363 million for Small Business Innovative Research/Small Business Technology Transfer programs and congressional adjustments (\$3.400 million) for Program Increase and to fund the Thermal Signature Management Technology program (\$5.000 million).</p> <p>FY 2018: None.</p> <p>FY 2019: Decrease of -\$1.115 million is due to \$0.326 million for Department economic assumptions decrease and \$0.789 million due to realignment to higher command priorities.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command										Date: February 2018		
Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 1160401BB / SOF Technology Development				Project (Number/Name) S100 / SOF Technology Development			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S100: SOF Technology Development	474.372	44.857	34.493	35.921	-	35.921	40.757	46.884	49.890	50.890	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Small incremental co-investments with DOD, other government agencies, and commercial organizations allow USSOCOM to influence the schedule and direction of technology developments, emerging technologies, and capabilities for Special Operations Forces (SOF), with significant economies of investment. This USSOCOM investment strategy is used to link technology opportunities with USSOCOM capability deficiencies, capability objectives; technology thrust areas, and technology objectives. Technology development needs in these areas may be advertised to industry and government research and development agencies via agency announcements and calls for white papers.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> SOF Technology Development	18.141	15.157	16.421
<b>Description:</b> This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11.			
<b>FY 2018 Plans:</b> Continue ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduced signature technologies, high data-rate throughput, and advance lightweight armor and materials. Advance technologies for combat medical equipment, tactics, human performance, sensor and processing improvements, improve interfaces and displays, machine learning/artificial intelligence, and secure communications. Continue pursuit of methods to reduce operator load and provide advanced protection. Develop technologies for improved and widened window of target engagement (escalation of force), pursue enhancements to technologies that can aid in detection of enemy intentions and movement, and continued development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfer successful projects into programs of record. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continued development of situational awareness and command/control systems.			
<b>FY 2019 Plans:</b> Continues ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduced signature technologies, high data-rate throughput, and advances lightweight armor and materials. Advances technologies for combat medical equipment, tactics, human performance, sensor and			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
processing improvements, improves interfaces and displays, machine learning/artificial intelligence, and secure communications. Continues pursuit of methods to reduce operator load and provides advanced protection. Develops technologies for improved and widened window of target engagement (escalation of force), pursues enhancements to technologies that can aid in detection of enemy intentions and movement, and continues development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfers successful projects into programs of record. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continued development of situational awareness and command/control systems.  FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$1.264 million due to increased number of technology readiness level technology development efforts to support SOF needs.				
Title: Tagging, Tracking, and Locating Technologies (TTL)  Description: TTL funds Applied Research projects identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL applies leading edge nanotechnology, biometric and biotechnology, and chemistry which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing.  FY 2018 Plans: Continue projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiate projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA.  FY 2019 Plans: Continues projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiates projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA.  FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$0.124 million supports minor adjustments.		14.668	15.441	15.565
Title: Classified Sub-Project  Description: Classified Sub-Project (provided under separate cover).  FY 2018 Plans: Details provided under separate cover.  FY 2019 Plans:		3.648	3.895	3.935

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>
Details provided under separate cover.			
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Details provided under separate cover.			
<b>Accomplishments/Planned Programs Subtotals</b>		36.457	34.493
		<b>FY 2017</b>	<b>FY 2018</b>
<b>Congressional Add:</b> Program Increase		3.400	-
<b>FY 2017 Accomplishments:</b> BIO Medical Human Performance Small Molecule and C4 Immersive Training Technology.			
<b>Congressional Add:</b> Thermal Signature Management Technology Program		5.000	-
<b>FY 2017 Accomplishments:</b> Details provided under separate cover.			
<b>Congressional Adds Subtotals</b>		8.400	-
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
N/A			
<b>E. Performance Metrics</b>			
N/A			